Contents

Adams, T. L., see Bennetzen, J. L. 258

Afonso, C. L., see Galbraith, D. W., et al. 151

Aguilar, R., Sanchez de Jiminez, E.
Amino acid pools and protein synthesis in germinating maize embryos 193

Anslow, P. A., see Shields, R., et al. 33

Arya, H. C., see Dhir, S. K., et al. 206

Barsby, T. L., Shepard, J. F., Kemble, R. J., Wong, R.
Somatic hybridization in the genus *Solanum: S. tuberosum* and *S. brevidens* 165

Bass, A., Hughes, W.
Conditions for isolation and regeneration of viable protoplasts of oil palm (Elaeis guineensis) 169

Bennetzen, J. L., Adams, T. L.
Selection and characterization of cadmium-resistant suspension cultures of the wild tomato *Lycopersicon peruvianum* 258

Berger, R. G., see Drawert, F., et al. 37

Berlin, J., see Schiel, O., et al. 18

Böhm, H., see Schröder, W. 14

Brisa, M. C., see Pérez-Bermúdez, P., et al. 8

Caligo, M. A., see Ronchi, V. N., et al. 210

Camara, B., see Gaudillière, J.-P., et al. 240

Cantliffe, D. J., see Lui, J. R. 112

Cesar, V., see Jelaska, S., et al. 125

Chalmers, J. D. C., Coleman, J. O. D., Walton, N. J.
Use of an electrochemical technique to study plasmamembrane redox reactions in cultured cells of *Daucus carota* L. 243

Chandra, N., see Singh, S. 1

Chénieux, J. C., see Kouadio, K., et al. 203

Chourey, P. S., see Wilson, A. J. 237

Coe, R., see Moore, R. 98

Cole, D. J., Loughman, B. C.
Transformation of phenoxyacetic acid herbicides by *Phaseolus vulgaris* L. callus cells 5

Colemann, J. O. D., see Chalmers, J. D. C., et al. 243

Cornejo, M. J., see Pérez-Bermúdez, P., et al. 8

Dhir, S. K., Shekhawat, N. S., Purohit, S. D., Arya, H. C.
Development of laticifer cells in callus cultures of *Calotropis procera* (Ait.) R. Br. 206

Drawert, F., Berger, R. G., Godelmann, R.
Regioselective biotransformation of valencene in cell suspension cultures of *Citrus* sp. 37

Dwivedi, U. N., see Khan, B. M., et al. 138

Eichenberger, W., Urban, B.
Sterols in seeds and leaves of oats (*Avena sativa* L.) 226

El-Shagi, H., see Schulte, U., et al. 51

Endo, T., see Yamada, Y. 186

Essa, A. K., see Lockwood, G. B. 109

Finer, J. J., Smith, R. H.
Initiation of callus and somatic embryos from explants of mature cotton (*Gossypium klotzschianum* Anderss) 41

Fujita, M., see Ohyama, K., et al. 21

Fukui, H., see Nakagawa, K., et al. 254

Fukui, H., see Tamura, Y., et al. 180

Fukui, H., see Tamura, Y., et al. 183

Galbraith, D. W., Afonso, C. L., Harkins, K. R.
Flow sorting and culture of protoplasts: Conditions for high-frequency recovery, growth and morphogenesis from sorted protoplasts of suspension cultures of nicotiana 151

Ganapathy, P. S., see Pandey, R. 45

Ganser, C., see Kouadio, K., et al. 203

Gaudillière, J.-P., d'Harlingue, A., Camara, B., Monéger, R.
Prenylation and methylation reactions in phylloquinone (vitamin K_1) synthesis in *Capsicum annuum* plastids 240

Godbole, D. A., see Krishnamurthy, K. V., et al. 30

Godbole, D. A., Kunachgi, M. N., Potdar, U. A., Krishnamurthy, K. V., Mascarenhas, A. F.
Studies on a drought resistant legume: The moth bean, *Vigna aconitifolia* (Jacq) Marechal. II. Morphogenetic studies 75

Godelmann, R., see Drawert, F., et al. 37

Goldberg, I., see Rokem, J. S., et al. 159

Gresshoff, P. M., see Mahanty, H. K. 176

Grossmann, K., Jung, J.
A new micro-method for testing plant growth retardants in cell suspension cultures 156

Guha-Mukherjee, S., see Ramaswamy, O., et al. 121

Gupta, P. K., Kendurkar, S. V., Kulkarni, V. M., Shirgurkar, M. V., Mascarenhas, A. F.
Somatic embryogenesis and plants from zygotic embryos of coconut (*Cocus nucifera* L.) in vitro 222

Guri, A., Izhar, S.
Improved efficiency of plant regeneration from protoplasts of eggplant (*Solanum melongena* L.) 247

Guri, A., Zelcer, A., Izhar, S.
Induction of high mitotic index in *Petunia* suspension cultures by sequential treatment with aphidicolin and colchicine 219

Hadary, D., see Ziv, M., et al. 10

Hain, R., Steinbiß, H.-H., Schell, J.
Fusion of *Agrobacterium* and *E. coli* spheroplasts with *Nicotiana tabacum* protoplasts – Direct gene transfer from microorganism to higher plant 60

Harkins, K. R., see Galbraith, D. W., et al. 151

d'Harlingue, A., see Gaudillière, J.-P., et al. 240

Hauptmann, R., see Kouider, M., et al. 142

Heinen, H. J., see Wink, M., et al. 230

Hiraoka, N., Yamada, N., Kodama, T., Tomita, Y.
In vitro propagation of *Atractylodes lancea* 85

Hirel, B., Nato, A., Martin, F.
Glutamine synthetase in ribulose 1,5-bisphosphate carboxylase/oxygenase deficient tobacco mutants in cell suspension culture 106

Hughes, W., see Bass, A. 169

Izhar, S., see Guri, A., et al. 219

Izhar, S., see Guri, A. 247

Jarchow-Redecker, K., see Schiel, O., et al. 18

Jelaska, S., Rengel, Z., Cesar, V.
Plant regeneration from mesocotyl callus of *Hordeum vulgare* L. 125

Jia, J., see Potrykus, I., et al. 68

Jung, J., see Grossmann, K. 156

Kainuma, K., see Sasaki, T. 23

Kalan, E. B., see Zacharius, R. M. 189

Kasha, K. J., see Séguin-Swartz, G., et al. 95

Kedar, N., see Ziv, M., et al. 10

Kemble, R. J., see Barsby, T. L., et al. 165

Kendurkar, S. V., see Gupta, P. K., et al. 222

Kerbauy, G. B.
Plant regeneration of *Oncidium varicosum* (Orchidaceae) by means of root tip culture 27

Khan, B. M., Dwivedi, U. N., Rawal, S. K., Mascarenhas, A. F.
In vivo nitrate reductase activity in dark- and light-grown sugarcane callus 138

Kodama, T., see Hiraoka, N., et al. 85

Komano, T., see Ohyama, K., et al. 21

Konagai, A., see Nakagawa, K., et al. 254

Korban, S. S., see Kouider, M., et al. 142

Kott, L., see Séguin-Swartz, G., et al. 95

Kouadio, K., Rideau, M., Ganser, C., Chénieux, J. C., Viel, C.
Biotransformation of ellipticine into 5-formyl ellipticine by *Choisya ternata* strains 203

Kouider, M., Hauptmann, R., Widholm, J. M., Skirvin, R. M., Korban, S. S.
Callus formation from *Malus* × *domestica* cv. 'Jonathan' protoplasts 142

Krishnamurthy, K. V., see Godbole, D. A., et al. 75

Krishnamurthy, K. V., Godbole, D. A., Mascarenhas, A. F.
Studies on a drought resistant legume: The moth bean, *Vigna aconitifolia* (Jacq) marechal. I. Protoplast culture and organogenesis 30

Kulkarni, V. M., see Gupta, P. K., et al. 222

Kunachgi, M. N., see Godbole, D. A., et al. 75

Ladizinsky, G., see Ziv, M., et al. 10

De Langhe, E., see Stinissen, H. M., et al. 55

Lazar, G. B., see Potrykus, I., et al. 68

Leelavathi, S., Reddy, V. S., Sen, S. K.
Somatic cell genetic studies in *Brassica* species. I. High frequency production of haploid plants in *Brassica alba* (L.) H.f. & T. 102

Lehmann, J., see Schiel, O., et al. 18

Liang, G. H., see Wang, J. W., et al. 146

Lippmann, G., see Lippmann, B. 215

Lippmann, B., Lippmann, G.
Induction of somatic embryos in cotyledonary tissue of soybean, *Glycine max.* L. Merr. 215

Liu, J. R., Cantliffe, D. J.
Somatic embryogenesis and plant regeneration in tissue cultures of sweet potato (*Ipomea batatas* Poir.) 112

Lockwood, G. B., Essa, A. K.
The effect of varying hormonal and precursor supplementations on levels of nicotine and related alkaloids in cell cultures of *Nicotiana tabacum* 109

Loughman, B. C., see Cole, D. J. 5

Luccarini, G., see Ronchi, V. N., et al. 210

Lütz, C., see Tönissen, H. 116

Mahanty, H. K., Gresshoff, P. M.
Rapid derepression of in vitro nitrogenase activity in a *Rhizobium* strain which nodulates legumes and the nonlegume *Parasponia* 176

Martin, F., see Hirel, B., et al. 106

Mascarenhas, A. F., see Godbole, D. A., et al. 75

Mascarenhas, A. F., see Gupta, P. K., et al. 222

Mascarenhas, A. F., see Khan, B. M., et al. 138

Mascarenhas, A. F., see Krishnamurthy, K. V., et al. 30

Menczel, L., Wolfe, K.
High frequency of fusion induced in freely suspended protoplast mixtures by polyethylene glycol and dimethylsulfoxide at high pH 196

Misawa, N., see Ohyama, K., et al. 21

Monéger, R., see Gaudillière, J.-P., et al. 240

Moore, R.
Graft formation in *Solanum pennellii* (Solanaceae) 172

Moore, R., Coe, R.
A morphometric analysis of cellular differentiation in root caps of *Cucurbita pepo* 98

Moore, R., Pasieniuk, J.
Graviresponsiveness and columella cell structure in primary and secondary roots of *Ricinus communis* 48

Murthy, B. V., Raghavendra, A. S., Rama Das, V. S.
Stomatol opening in isolated epidermis of *Commelina benghalensis* L. heterophasic response to KCl concentration 199

Nakagawa, K., Konagai, A., Fukui, H., Tabata, M.
Release and crystallization of berberine in the liquid medium of *Thalictrum minus* cell suspension cultures 254

Nakamura, S., see Tamura, Y., et al. 180

Nakamura, S., see Tamura, Y., et al. 183

Nato, A., see Hirel, B., et al. 106

Nozzolini, M., see Ronchi, V. N., et al. 210

Ohyama, K., Uchida, Y., Misawa, N., Komano, T., Fujita, M., Ueno, T.
Oil body formation in *Euphorbia tirucalli* L. cell suspension cultures 21

Pal, S., see Ramaswamy, O., et al. 121

Pandey, R., Ganapathy, P. S.
Isolation of sodium chloride-tolerant callus line of *Cicer arietinum* L. cv. BG-203 45

Parr, A. J., Robins, R. J., Rhodes, M. J. C.
Permeabilization of *Cinchona ledgeriana* cells by dimethylsulphoxide. Effects on alkaloid release and long-term membrane integrity 262

Parr, A. J., Smith, J. I., Robins, R. J., Rhodes, M. J. C.
Apparent free space and cell volume estimation: A non-destructive method for assessing the growth and membrane integrity/viability of immobilised plant cells 161

Pasieniuk, J., see Moore, R. 48

Patankar, S., Ranjekar, P. K.
Interphase nuclear structure and heterochromatin in *Phaseolus* plant species 130

Patankar, S., Ranjekar, P. K.
Condensed chromatin and its underreplication during root differentiation in leguminosae 250

Pérez-Bermúdez, P., Brisa, M. C., Cornejo, M. J., Segura, J.
In vitro morphogenesis from excised leaf explants of *Digitalis obscura* L. 8

Peumans, W. J., see Stinissen, H. M., et al. 55

Piehl, G.-W., see Schiel, O., et al. 18

Potdar, U. A., see Godbole, D. A., et al. 75

Potrykus, I., see Saul, M. W. 65

Potrykus, I., Jia, J., Lazar, G. B., Saul, M.
Hyoscyamus muticus + *Nicotiana tabacum* fusion hybrids selected via auxothroph complementation 68

Purohit, S. D., see Dhir, S. K., et al. 206

Raghavendra, A. S., see Murthy, B. V., et al. 199

Rama Das, V. S., see Murthy, B. V., et al. 199

Ramaswamy, O., Pal, S., Guha-Mukherjee, S., Sopory, S. K.
Correlation of glyoxalase I activity with cell proliferation in *Datura callus* culture 121

Ranjekar, P. K., see Patankar, S. 130

Ranjekar, P. K., see Patankar, S. 250

Ratcliffe, R. G., see Robins, R. J. 234

Rawal, S. K., see Khan, B. M., et al. 138

Reddy, V. S., see Leelavathi, S., et al. 102

Reese, R. N., Roberts, L. W.
Cadmium uptake and its effects on growth of tobacco cell suspension cultures 91

Rengel, Z., see Jelaska, S., et al. 125

Rhodes, M. J. C., see Parr, A. J., et al. 161

Rhodes, M. J. C., see Parr, A. J., et al. 262

Richter, G., see Schumacher-Wittkopf, E., et al. 81

Rideau, M., see Kouadio, K., et al. 203

Roberts, L. W., see Reese, R. N. 91

Robins, R. J., see Parr, A. J., et al. 161

Robins, R. J., see Parr, A. J., et al. 262

Robins, R. J., Ratcliffe, R. G.
Intracellular distribution of phosphate in cultured *Humulus lupulus* cells growing at elevated exogenous phosphate concentrations 234

Robinson, S. J., see Shields, R., et al. 33

Rokem, J. S., Schwarzberg, J., Goldberg, I.
Autoclaved fungal mycelia increase diosgenin production in cell suspension cultures of *Dioscorea deltoidea* 159

Ronchi, V. N., Caligo, M. A., Nozzolini, M., Luccarini, G.
Stimulation of carrot somatic embryogenesis by proline and serine 210

Sanchez de Jiminez, E., see Aguilar, R. 193

Sasaki, T., Kainuma, K.
Control of starch and exocellular polysaccharides biosynthesis by gibberellic acid with cells of sweet potato cultured in vitro 23

Saul, M., see Potrykus, I., et al. 68

Saul, M. W., Potrykus, I.
Species-specific repetitive DNA used to identify interspecific somatic hybrids 65

Schell, J., see Hain, R., et al. 60

Schiebel, H. M., see Wink, M., et al. 230

Schieder, O., see Steffen, A. 134

Schiel, O., Jarchow-Redecker, K., Piehl, G.-W., Lehmann, J., Berlin, J.
Increased formation of cinnamoyl putrescines by fedbatch fermentation of cell suspension cultures of *Nicotiana tabacum* 18

Schröder, W., Böhm, H.
Betacyanin concentrations in young cell cultures from *Portulaca grandiflora* – an analysis of variation 14

Schübel, H., Stöckigt, J.
RLCC-isolation of Raucaffricine from its most efficient source-cell suspension cultures of *Rauwolfia serpentina* Benth 72

Schulte, U., El-Shagi, H., Zenk, M. H.
Optimization of 19 *Rubiaceae* species in cell culture for the production of anthraquinones 51

Schulze, S., see Schumacher-Wittkopf, E., et al. 81

Schumacher-Wittkopf, E., Richter, G., Schulze, S.
Polynucleotide phosphorylase from plant cells 81

Schwarzberg, J., see Rokem, J. S., et al. 159

Séguin-Swartz, G., Kott, L., Kasha, K. J.
Development of haploid cell lines from immature barley, *Hordeum vulgare*, embryos 95

Segura, J., see Pérez-Bermúdez, P., et al. 8

Sen, S. K., see Leelavathi, S., et al. 102

Shekhawat, N. S., see Dhir, S. K., et al. 206

Shepard, J. F., see Barsby, T. L., et al. 165

Shields, R., Robinson, S. J., Anslow, P. A.
Use of fungicides in plant tissue culture 33

Shirgurkar, M. V., see Gupta, P. K., et al. 222

Singh, S., Chandra, N.
Plant regeneration in callus and suspension cultures of *Brassica campestris* cv. *Yellow Sarson* 1

Skirvin, R. M., see Kouider, M., et al. 142

Smith, R. H., see Finer, J. J. 41

Smith, J. I., see Parr, A. J., et al. 161

Sopory, S. K., see Ramaswamy, O., et al. 121

Sorensen, E. L., see Wang, J. W., et al. 146

Steffen, A., Schieder, O.
Biochemical and genetical characterization of nitrate reductase deficient mutants of *Petunia* 134

Steinbiß, H.-H., see Hain, R., et al. 60

Stinissen, H. M., Peumans, W. J., De Langhe, E.
Abscisic acid promotes lectin biosynthesis in developing and germinating rice embryos 55

Stöckigt, J., see Schübel, H. 72

Tabata, M., see Nakagawa, K., et al. 254

Tabata, M., see Tamura, Y., et al. 180

Tabata, M., see Tamura, Y., et al. 183

Tamura, Y., Nakamura, S., Fukui, H., Tabata, M.
Comparison of *Stevia* plants grown from seeds, cuttings and stem-tip cultures for growth and sweet diterpene glucosides 180

Tamura, Y., Nakamura, S., Fukui, H., Tabata, M.
Clonal propagation of *Stevia rebaudiana* Bertoni by stem-tip culture 183

Tönissen, H., Lütz, C.
Reaggregation of etioplast lipids and the formation of prolamelar bodies and thylakoids: An ultrastructural study 116

Tomita, Y., see Hiraoka, N., et al. 85

Uchida, Y., see Ohyama, K., et al. 21

Ueno, T., see Ohyama, K., et al. 21

Urban, B., see Eichenberger, W. 226

Viel, C., see Kouadio, K., et al. 203

Vogt, H., see Wink, M., et al. 230

Walton, N. J., see Chalmers, J. D. C., et al. 243

Wang, J. W., Sorensen, E. L., Liang, G. H.
In vitro cultures of pods from annual and perennial *Medicago* species 146

Wang, D., see Xu, Z., et al. 149

Wang, D., Yan, K.
Somatic embryogenesis in *Echinochloa crusgalli* 88

Wei, Z., see Xu, Z., et al. 149

Widholm, J. M., see Kouider, M., et al. 142

Wilson, A. J., Chourey, P. S.
A rapid inexpensive method for the isolation of restrictable mitochondrial DNA from various plant sources 237

Wink, M., Heinen, H. J., Vogt, H., Schiebel, H. M.
Cellular localization of quinolizidine alkaloids by laser desorption mass spectrometry (LAMMA 1000) 230

Wolfe, K., see Menczel, L. 196

Wong, R., see Barsby, T. L., et al. 165

Xu, Z., Wang, D., Yang, L., Wei, Z.
Somatic embryogenesis and plant regeneration in cultured immature inflorescences of *Setaria italica* 149

Yamada, N., see Hiraoka, N., et al. 85

Yamada, Y., Endo, T.
Tropane alkaloid production in cultured cells of *Duboisia leichhardtii* 186

Yan, K., see Wang, D. 88

Yang, L., see Xu, Z., et al. 149

Zacharius, R. M., Kalan, E. B.
Biotransformation of the potato stress metabolite, solavetivone, by cell suspension cultures of two solanaceous and three non-solanaceous species 189

Zelcer, A., see Guri, A., et al. 219

Zenk, M. H., see Schulte, U., et al. 51

Ziv, H., Hadary, D., Kedar, N., Ladizinsky, G.
Lycopersicon esculentum: Trifoliate plants recovered from anther cultures of heterozygous Tftf plants 10

Announcement 79, 267

Erratum 266